FIG.1

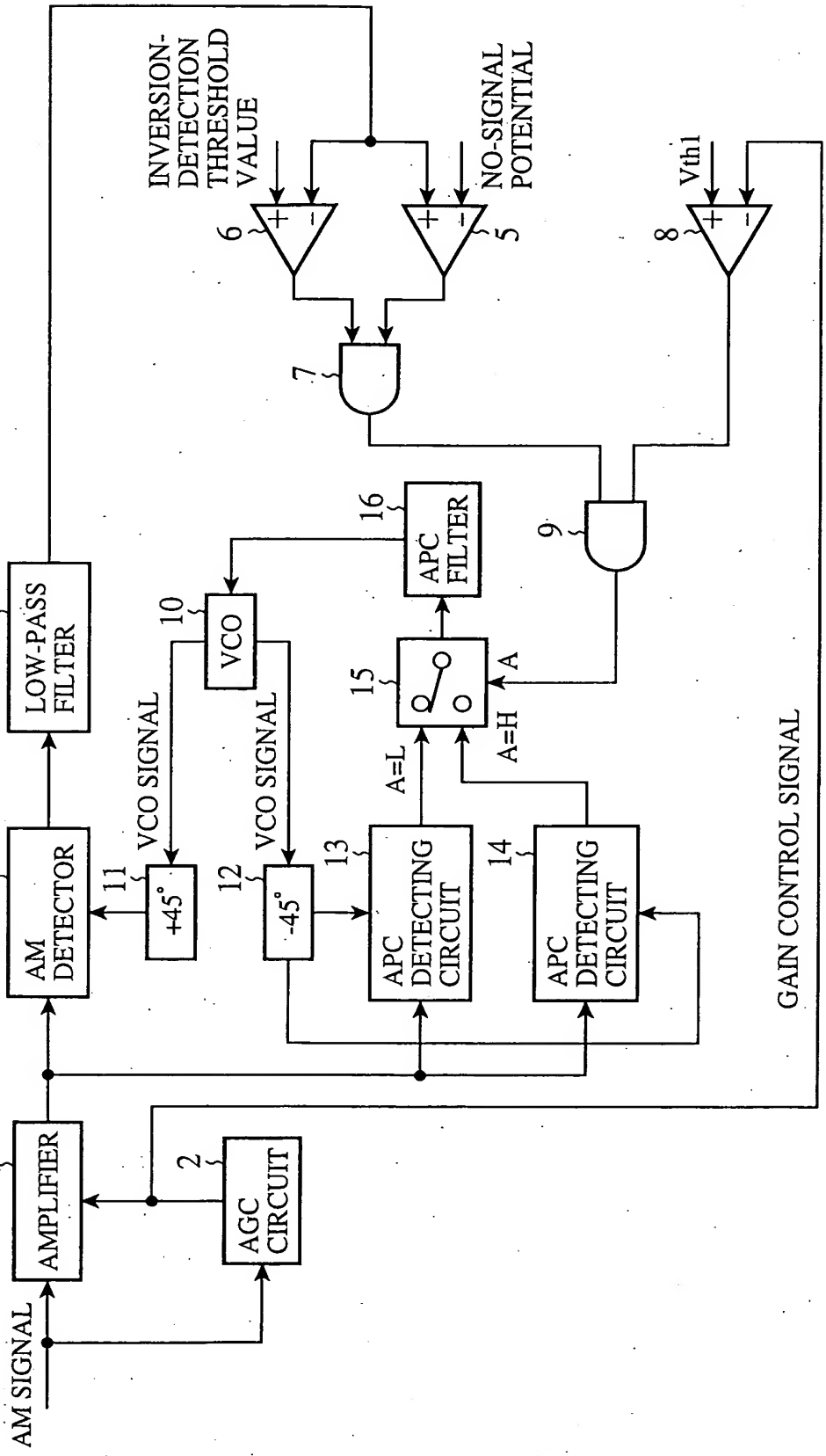

AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
5
6
INVERSION-DETECTION THRESHOLD VALUE
NO-SIGNAL POTENTIAL
7
8
Vth1
9
10
VCO
11
+45°
12
-45°
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
A
A=L
A=H
16
APC FILTER
VCO SIGNAL
VCO SIGNAL
GAIN CONTROL SIGNAL

FIG.2

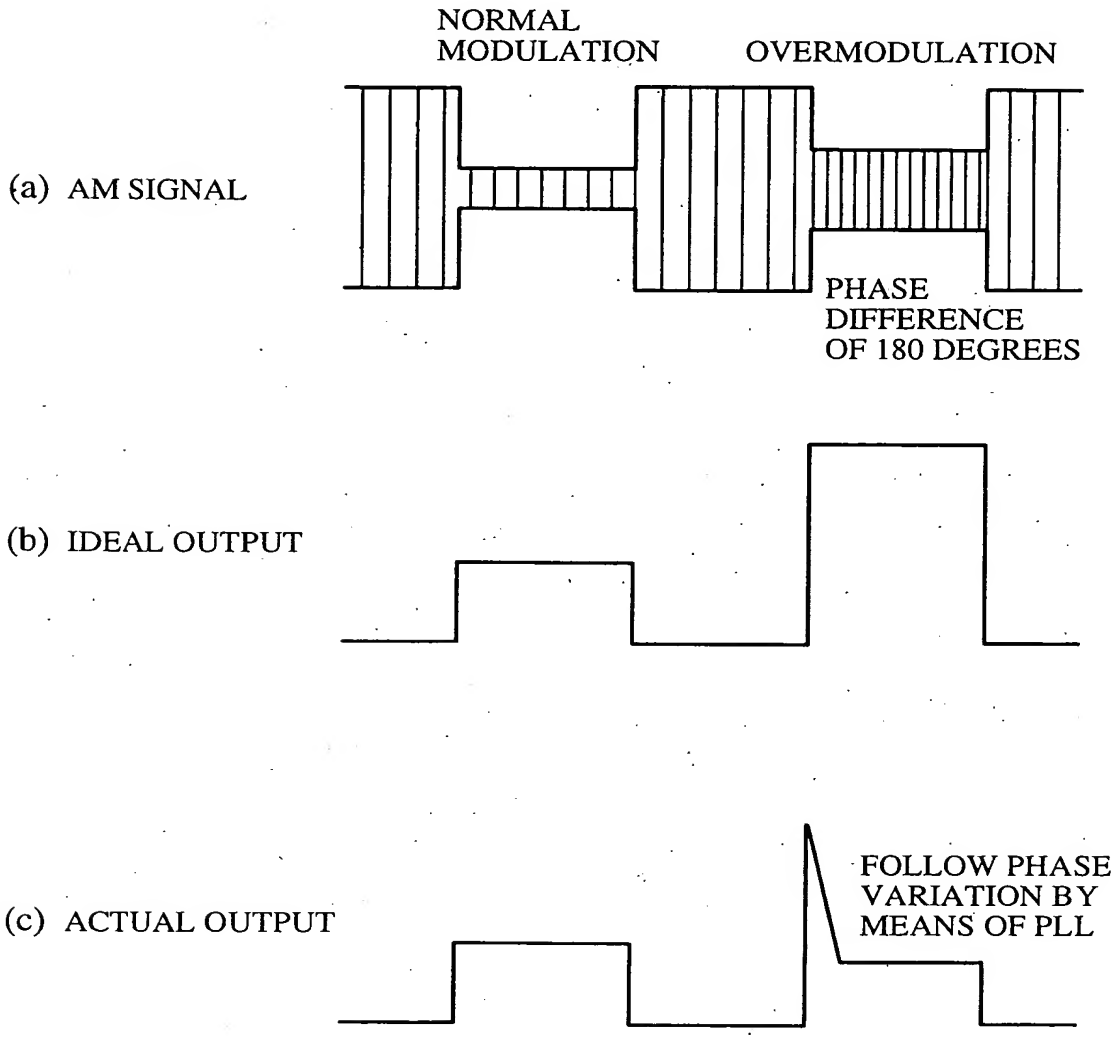

NORMAL MODULATION
OVERMODULATION
(a) AM SIGNAL
PHASE DIFFERENCE OF 180 DEGREES
(b) IDEAL OUTPUT
(c) ACTUAL OUTPUT
FOLLOW PHASE VARIATION BY MEANS OF PLL

FIG.3

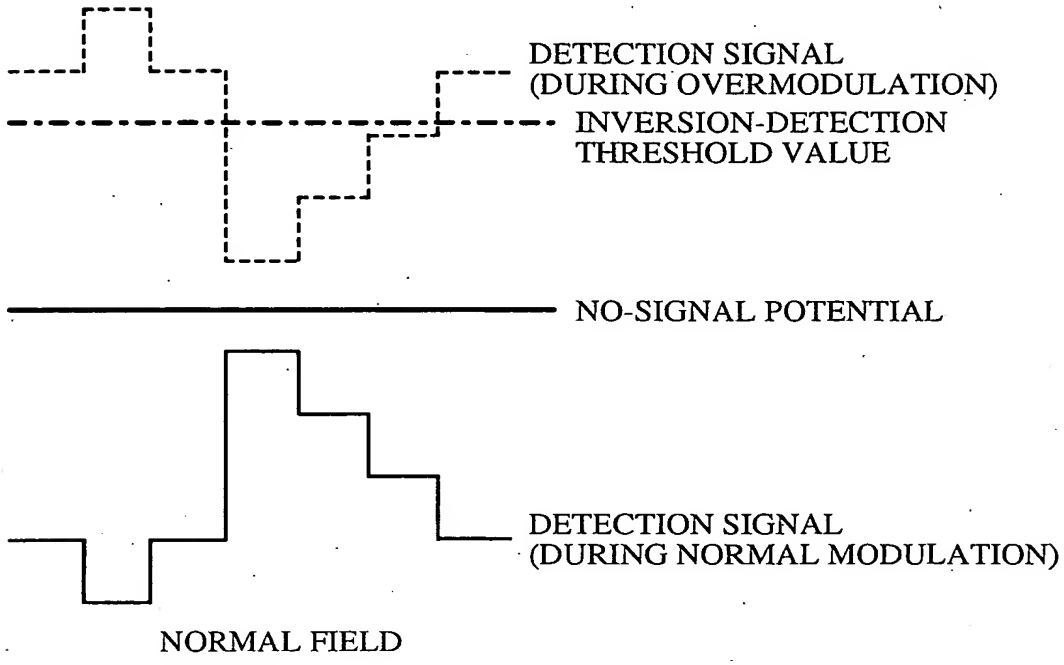

DETECTION SIGNAL
(DURING OVERMODULATION)
INVERSION-DETECTION
THRESHOLD VALUE
NO-SIGNAL POTENTIAL
DETECTION SIGNAL
(DURING NORMAL MODULATION)
NORMAL FIELD

FIG.4

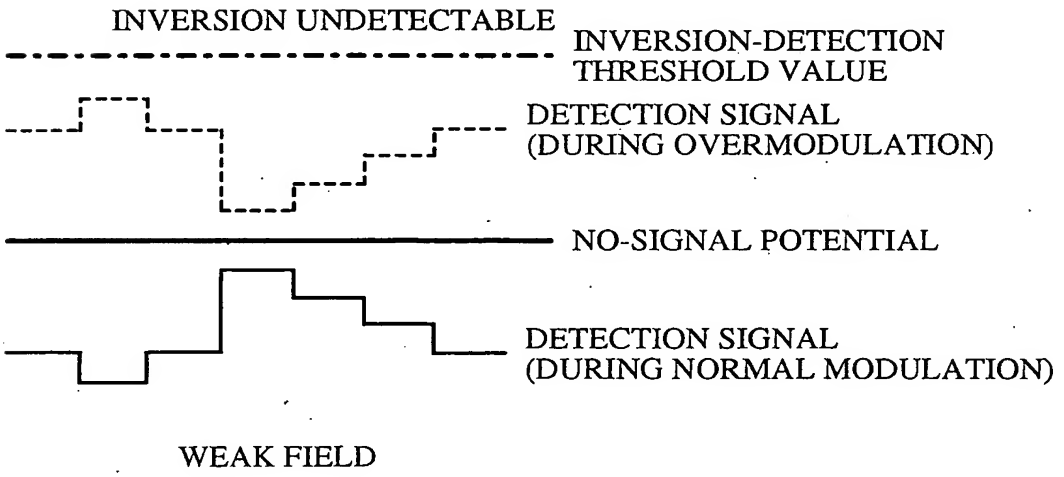

INVERSION UNDETECTABLE
INVERSION-DETECTION
THRESHOLD VALUE
DETECTION SIGNAL
(DURING OVERMODULATION)
NO-SIGNAL POTENTIAL
DETECTION SIGNAL
(DURING NORMAL MODULATION)
WEAK FIELD

FIG.5

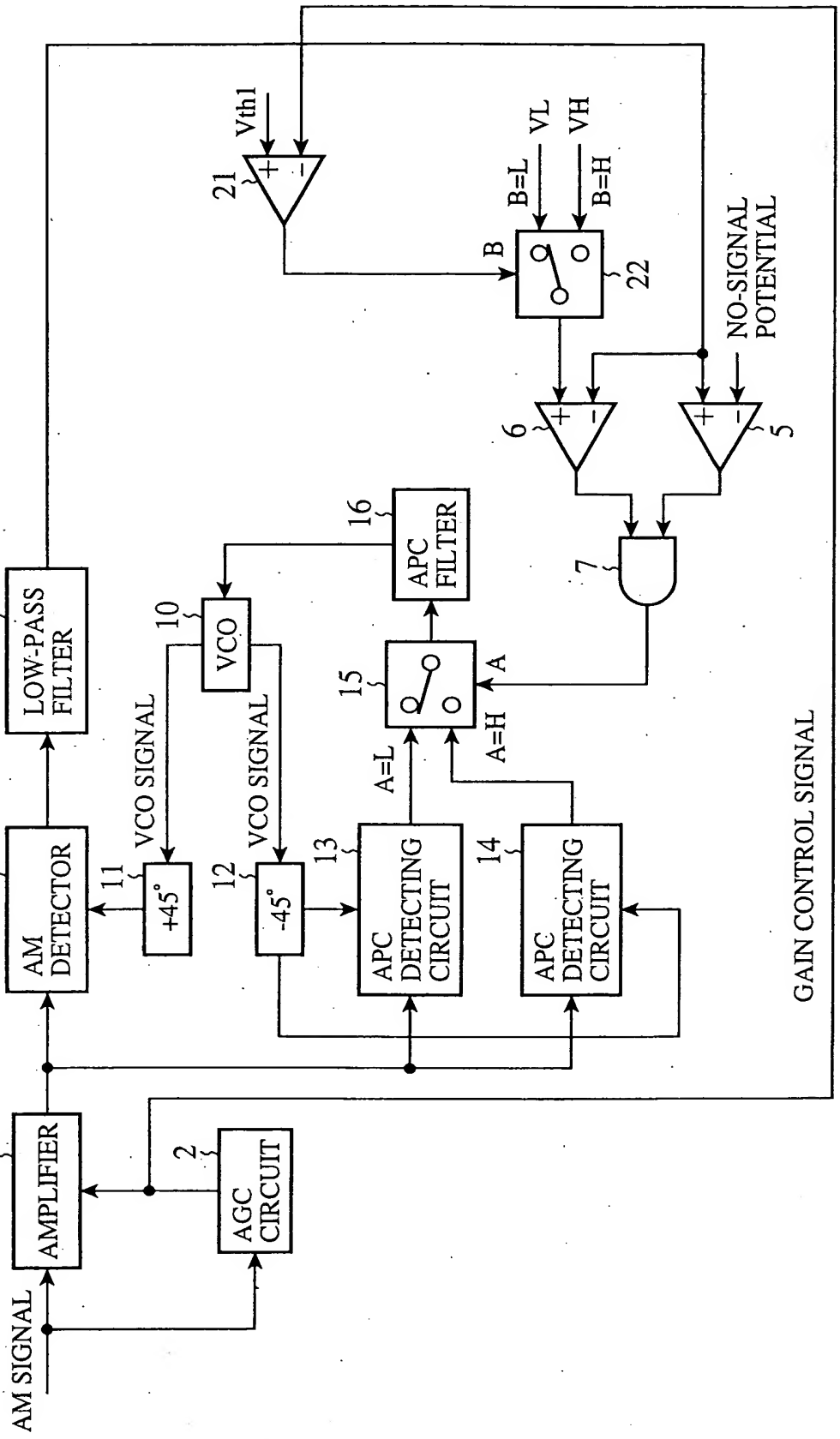

AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
GAIN CONTROL SIGNAL
11
+45°
12
-45°
VCO SIGNAL
VCO SIGNAL
10
VCO
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
A
A=L
A=H
16
APC FILTER
7
6
5
21
Vth1
B
B=L
VL
B=H
VH
22
NO-SIGNAL POTENTIAL

FIG.6

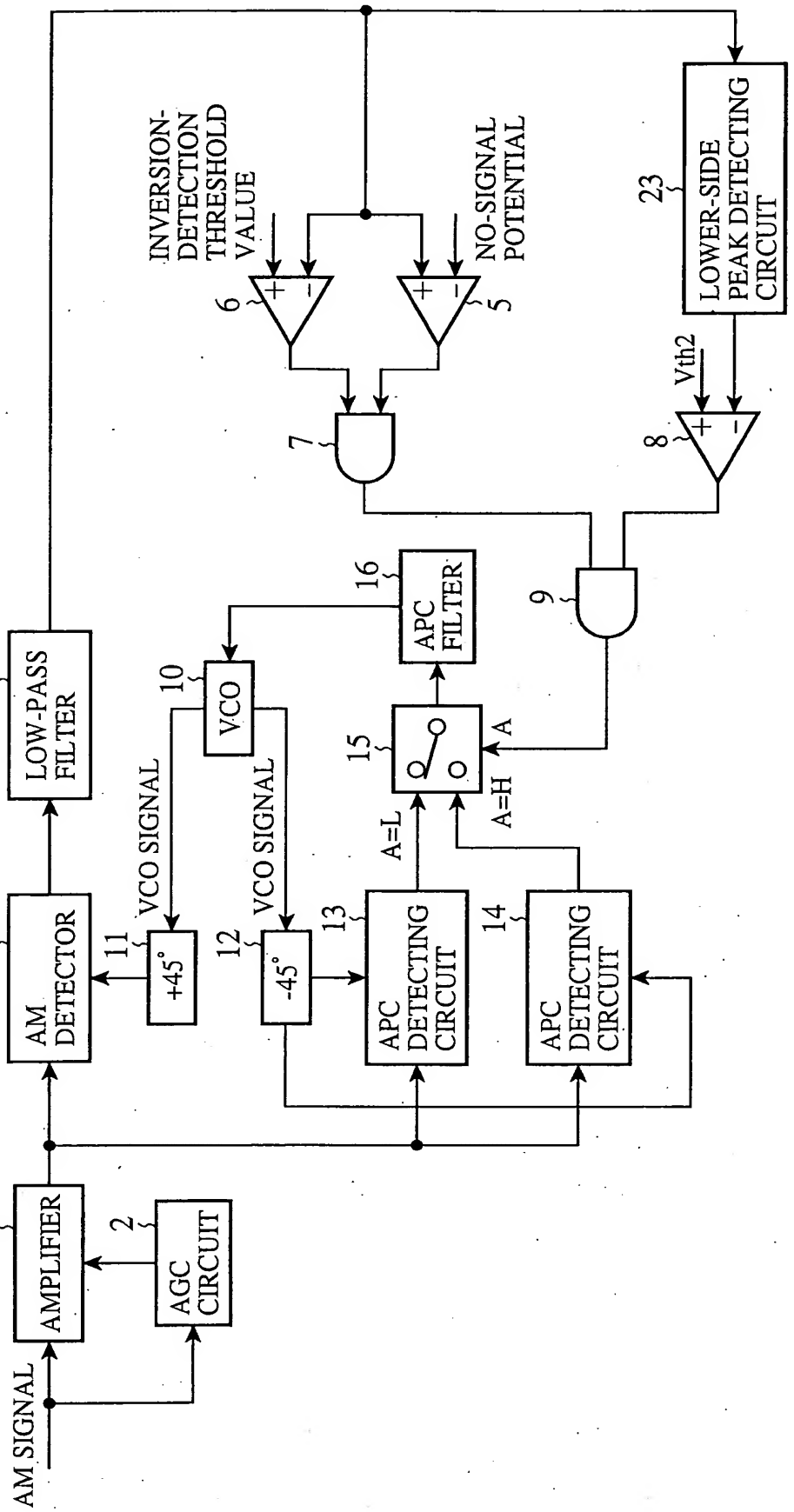

AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
VCO SIGNAL
11
+45°
VCO SIGNAL
12
-45°
10
VCO
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
A
A=L
A=H
16
APC FILTER
9
7
6
INVERSION-DETECTION THRESHOLD VALUE
5
NO-SIGNAL POTENTIAL
8
Vth2
23
LOWER-SIDE PEAK DETECTING CIRCUIT

FIG.7

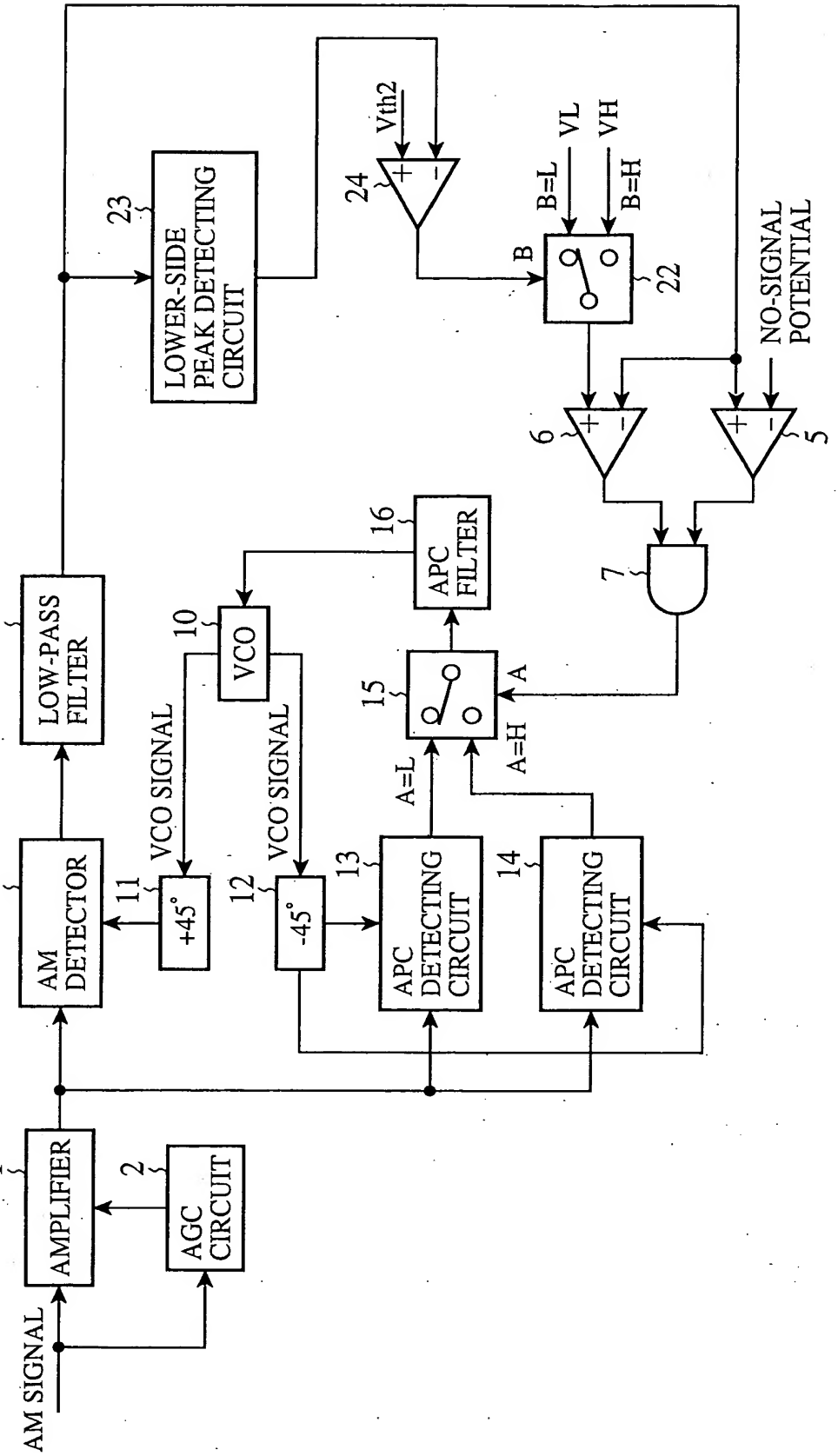

AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
10
VCO
11
+45°
12
-45°
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
16
APC FILTER
7
6
5
24
Vth2
23
LOWER-SIDE PEAK DETECTING CIRCUIT
B
22
B=L
VL
VH
B=H
NO-SIGNAL POTENTIAL
A
A=H
A=L
VCO SIGNAL
VCO SIGNAL

FIG.8

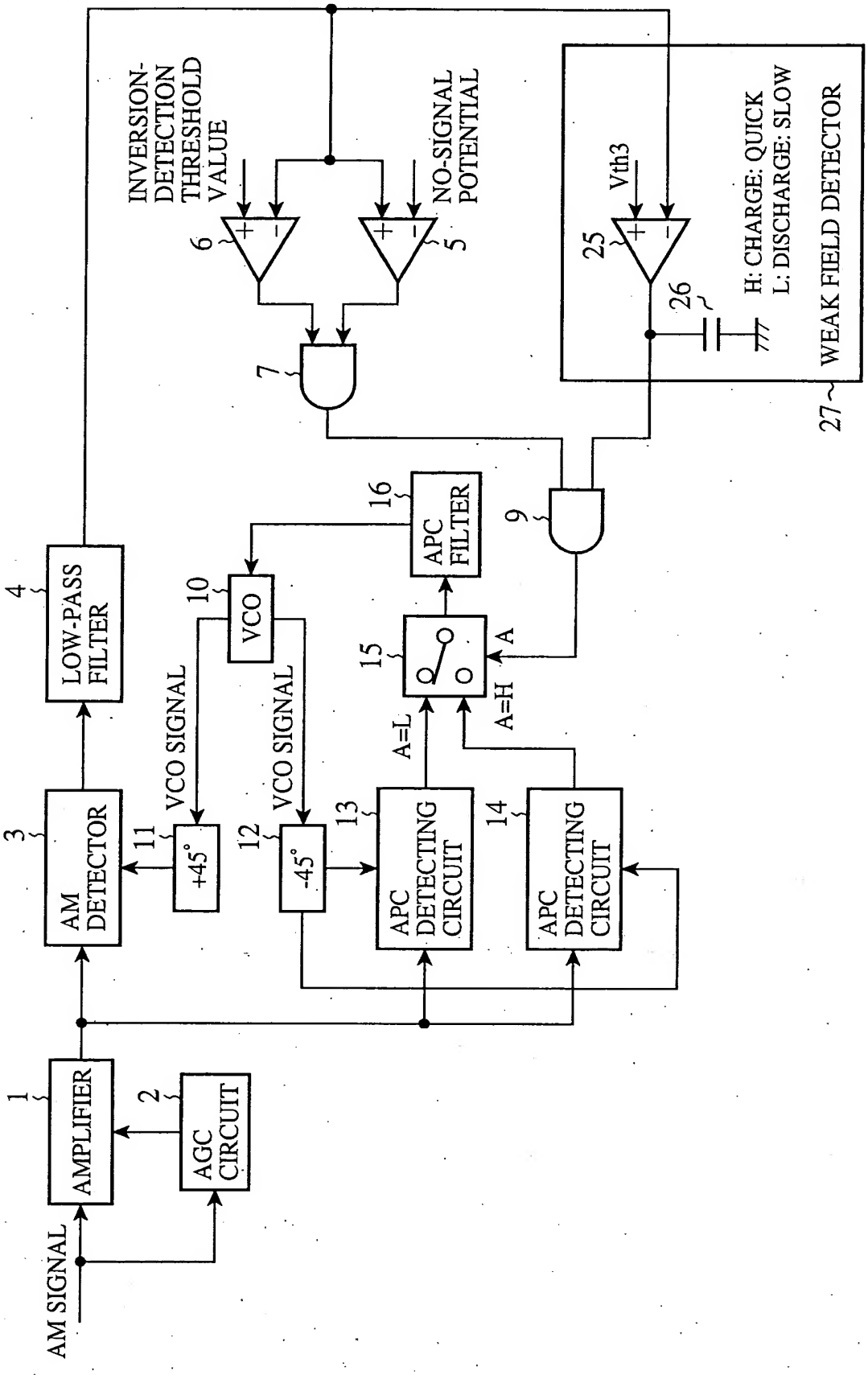
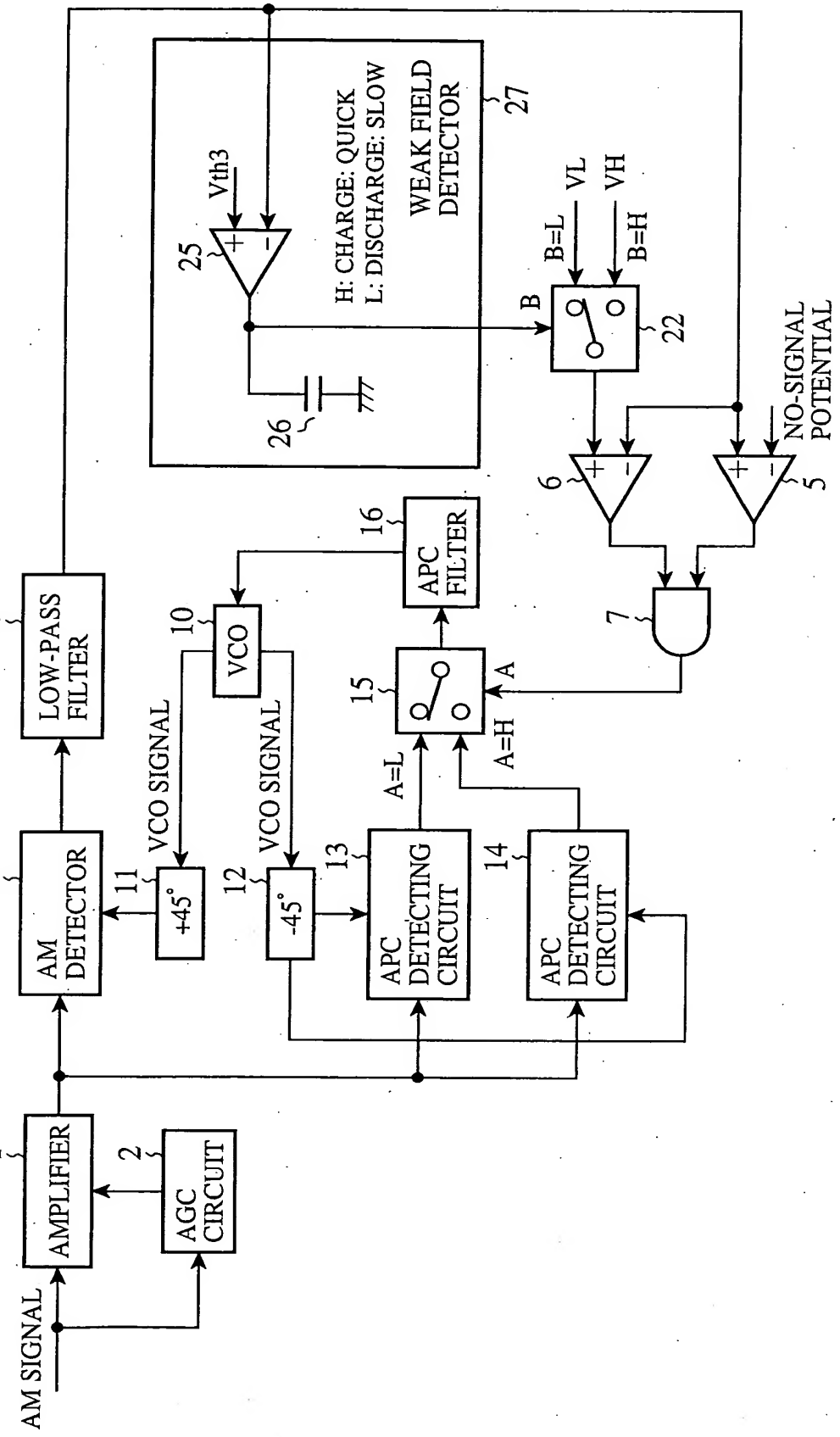

AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
5
NO-SIGNAL POTENTIAL
6
INVERSION-DETECTION THRESHOLD VALUE
7
9
10
VCO
11
+45°
12
-45°
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
A
A=H
A=L
16
APC FILTER
25
Vth3
26
H: CHARGE: QUICK
L: DISCHARGE: SLOW
27
WEAK FIELD DETECTOR
VCO SIGNAL
VCO SIGNAL

FIG.9


AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
5
6
7
10
VCO
11
+45°
12
-45°
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
16
APC FILTER
22
25
26
27
WEAK FIELD DETECTOR
H: CHARGE: QUICK
L: DISCHARGE: SLOW
Vth3
VL
VH
B=L
B=H
B
A
A=H
A=L
VCO SIGNAL
VCO SIGNAL
NO-SIGNAL POTENTIAL

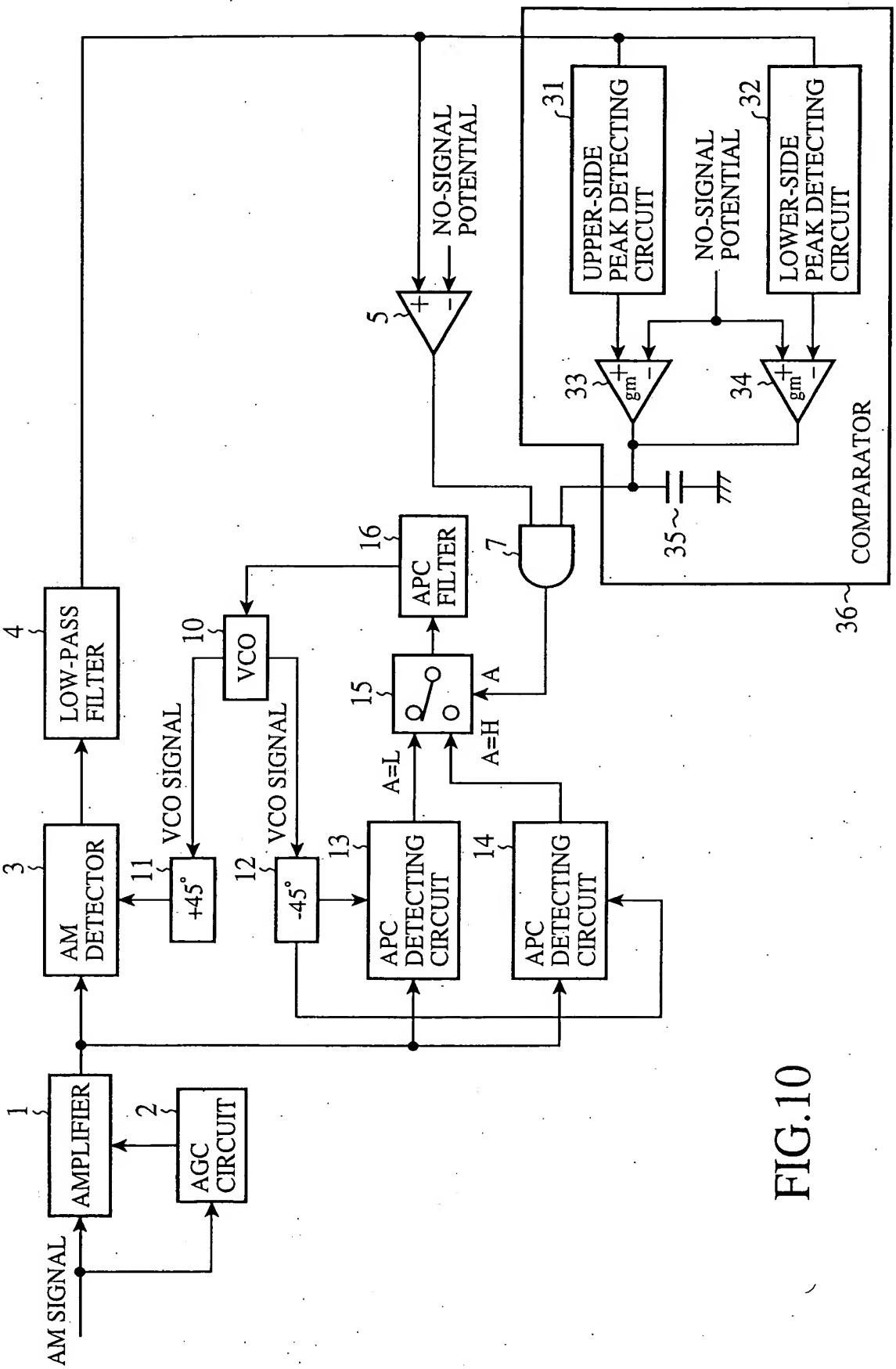

AM SIGNAL
1
AMPLIFIER
2
AGC CIRCUIT
3
AM DETECTOR
4
LOW-PASS FILTER
5
NO-SIGNAL POTENTIAL
10
VCO
11
+45°
12
-45°
13
APC DETECTING CIRCUIT
14
APC DETECTING CIRCUIT
15
A
A=H
A=L
16
APC FILTER
7
31
UPPER-SIDE PEAK DETECTING CIRCUIT
32
LOWER-SIDE PEAK DETECTING CIRCUIT
NO-SIGNAL POTENTIAL
33
34
gm
35
36
COMPARATOR
VCO SIGNAL
VCO SIGNAL

FIG.10